VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELGAUM

A project Dissertation submitted on

"ISOLATION OF PLANT HORMONE (GA_3) FROM FUNGI AND PRODUCTION AND OPTIMIZATION STUDIES"

(SPONCERED BY K.S.C.S.T. BANGALORE)

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ABSTRACT

In agriculture for better crop yield we use lot of inorganic fertilizers and chemicals which adversely affect human health, soil fertility, its micro flora, marine life and entire ecosystem. Plant hormone Gibberellic acid (GA_3) produced from various fungi is used as alternative to increase crop yield and because of its eco-friendly characteristics, it is used in organic farming as approved by FDA (Food and Drug Administration). The use of GA_3 in India is restricted because of its rare production in India and high international market value of about 25-36$/gram of GA_3 which is due to the tedious downstream processing. This projects aims to reduce the time and cost of production of GA_3 such that it becomes economical for any Indian farmer.

The work started with isolation of fungi (Fusarium species) from diseased sorghum crop and from Belgaum agricultural land. All the isolated species were screened for the production of GA_3 in czapak dox (CD) media. Among all, M-104 strain showed best results and also its productivity is checked in natural media that is Cashew Apple juice. The fermented broth is filtered and GA_3 concentration is estimated, diluted to a particular level and used. This reduces the downstream processing which ultimately reduces the cost of the product which is economically suitable for any Indian farmer.